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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KURTZ, BENJAMIN M

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/719,924	Applicant(s) BAUM ET AL.	
	Examiner BENJAMIN KURTZ	Art Unit 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21,54,55,61,64-73,76 and 77 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21,54,55,61,64-73,76 and 77 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 21, 54, 55, 61, 64-73, 76 and 77 are pending, claims 1-20, 22-53, 56-60, 62, 63, 74, 75 and 78 are cancelled.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 21, 54, 55, 61, 64-73, 76 and 77 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 21, 61 and 76 have been amended to recite the system being used to treat water runoff entering a municipal separate storm sewer system-type storm water management infrastructure. The specification provides for a system to treat runoff water in a storm water management infrastructure but does not specify what type of system in particular is being used.

Claim 21 also recites the system comprising a plurality of catch basins and a plurality of disinfecting chemical dispensers. The specification provides support for a

system comprising just one catch basin and just one chemical dispenser as part of the wet and dry weather disinfection system.

Claims 21, 61 and 76 recite the disinfection occurring in a chamberless region of the system. The specification only provides support for the disinfection chemicals to be mixed with water in a mixing chamber.

Claims 54, 55, 64-73 and 77 are rejected as depending from claims 21, 61 or 76.

2. Claims 21, 54, 55, 61, 64-73, 76 and 77 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 21, 61 and 76 recite the disinfection occurring in a chamberless region of the system. The applicant has not provided a definition of what is meant by chamberless. The broadest reasonable interpretation of what chamberless would mean would be without a compartment, enclosed space or cavity. The claims locate the system in-line to a basin presumably in a pipe or passage of some kind. One of ordinary skill in the art would reach such a conclusion from a reading of the specification and the figures. The specification provides no support or direction for a chamberless region, and instead calls the disinfection region a mixing chamber. The claims and specification are considered non-enabling for such a feature. For examination purposes it appears the applicant is stating that the disinfection chemicals are inserted into the

water within a pipe, in an inline system. The claims will be interpreted in such a fashion, that the chemicals are dispensed into a flow through region of the system.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21, 54, 61, 64, 66-69 and 71-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghalib '404 in view of Putz US 5 980 736.

Regarding claim 21, Ghalib teaches a wet and dry weather water disinfection system comprising: a catch basin (40) flowingly coupled to a municipal storm sewer system (12) the catch basin comprising a storm sewer inlet, a disinfecting chemical dispenser (27) located in line to the catch basin the chemical dispenser is configured to add a disinfectant chemical directly into water flowing through the storm sewer inlet such that the disinfecting chemical mixes with the water in a chamberless region of the catch basin, a means (30) to measure water flow rate of water through the system, the flow sensor (30) performs the identical function in substantially the same way with substantially the same results as the flow meter disclosed herein, a control unit (28) informationally coupled to the disinfecting chemical dispenser and the flow rate

measurement means that controls an amount of disinfectant chemical added to the water (fig. 1, col. 3, lines 36-58). How the control unit controls the amount of chemical added is a process limitation and does not further structurally limit the apparatus. The recitation of a municipal separate storm sewer system-type storm water management infrastructure is a recitation of intended use that does not further structurally limit the apparatus. Ghalib does not teach a sensor to measure water pollution characteristics or a plurality of catch basins and chemical dispensers.

Putz teaches a wet and dry water disinfection system comprising a sensor (20, 21) configured to measure water pollution characteristics of the water informationally connected to a control unit (fig. 1, col. 3, lines 19-32, col. 4, lines 14-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the sensor of Putz with the apparatus of Ghalib because it provides values to the controller to accurately add treatment chemicals to the water (col. 4, lines 14-25).

Providing a plurality of catch basins and chemical dispensers is merely providing a plurality of the systems taught by Ghalib. Mere duplication of parts has no patentable significance unless a new and unexpected result is produced, *In re Harza*, 124 USPQ 378 (1960).

Regarding claim 54, Putz further teaches the water pollution sensor is located upstream of a disinfection chemical dispenser (fig. 1).

Regarding claim 61, Ghalib teaches an automated in-line storm water disinfection system comprising: a monitor (30) for measuring flow rate of water through a storm water sewer system, a chamberless means for disinfecting water (the tunnel where the

disinfection chemical is dispensed) which performs the identical function in substantially the same way with substantially the same results as the chemical dispenser disclosed herein, a control unit (28) located in-line to the storm sewer system and informationally coupled to the flow rate monitor and to the disinfecting means and capable of dispensing disinfectant into water (fig. 1, col. 3, lines 36-58). How the control unit controls the amount of chemical added is a process limitation and does not further structurally limit the apparatus. The recitation of a municipal separate storm sewer system-type storm water management infrastructure is a recitation of intended use that does not further structurally limit the apparatus. Ghalib does not teach a sensor to measure water pollution characteristics.

Putz teaches a wet and dry water disinfection system comprising a sensor (20, 21) configured to measure water pollution characteristics of the water (fig. 1, col. 3, lines 19-32, col. 4, lines 14-25). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the sensor of Putz with the apparatus of Ghalib because it provides values to the controller to accurately add treatment chemicals to the water (col. 4, lines 14-25).

Regarding claim 64, Ghalib further teaches the water disinfecting means is a chemical dispenser (fig. 1).

Regarding claims 69 and 71-73, Putz further teaches the at least one sensor is upstream of the disinfecting means (fig. 2); the at least one sensor measures physiochemical and biological properties of the water (col. 4, lines 55-60); and the at least one sensor is a sensor array (20,21,26) (fig. 2).

Regarding claims 66-68, these claims do not cite any specific structure and only detail how the system operates as a process step. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production or how it is used. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” In re Thorpe, 227 USDQ 964 (1985).

4. Claims 76 and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Putz ‘736 in view of O-Leary et al. US 4 659 459.

Regarding claim 76, Putz teaches an automated in-line wet and dry weather water flow disinfection system comprising: an in-line flow rate monitor (col. 7, lines 30-35), a chamberless water treatment unit (the pipe) comprising a chemical dispenser (23-25) for dispensing a disinfectant chemical, a control unit located in-line to the system and electrically coupled to the flow rate monitor and to the chemical dispenser and capable of controlling the amount of chemical disinfectant based on the flow rate, and at least one upstream sensor feedback (20,21,46) coupled to the control unit (fig. 2). The recitation of a municipal separate storm sewer system-type storm water management infrastructure is a recitation of intended use that does not further structurally limit the apparatus. The recitation of the control unit being programmed to automatically determine a dosage level based on the flow rate is a recitation of process that does not

further structurally limit the apparatus. Putz does not teach at least one downstream sensor.

O'Leary teaches a water disinfection system having a disinfection chemical dispenser with a control unit comprising a downstream sensor (118) from the disinfection chemical dispenser that measures water characteristics (fig. 1, col. 8, lines 15-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a downstream sensor as taught by O'Leary because the downstream sensor relays information to the control unit to better regulate the amount of chemical added to the system (col. 2, lines 45-61).

Regarding claim 77, Putz in view of O-Leary teaches the system of claim 76 but does not teach the biologic properties further comprising the concentration of pathogenic microorganisms. It would have been obvious to one of ordinary skill in the art to use a sensor capable of detecting the concentration of pathogenic microorganisms because the system of Putz is configured to provide substances for disinfecting the water and it would be advantageous to adjust the amount of disinfectant substance added based on this characteristic of the water.

5. Claims 55 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghalib '404 in view of Putz '736 as applied to claims 21 and 61 above, and further in view of O'Leary '459.

Regarding claims 55 and 70, Ghalib in view of Putz teaches the system of claim 21 and 61 but does not teach a downstream sensor. O'Leary teaches a water disinfection system having a disinfection chemical dispenser with a control unit comprising a downstream sensor (118) from the disinfection chemical dispenser that measures water characteristics (fig. 1, col. 8, lines 15-20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a downstream sensor as taught by O'Leary because the downstream sensor relays information to the control unit to better regulate the amount of chemical added to the system (col. 2, lines 45-61).

6. Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ghalib '404 in view of Putz '736 as applied to claim 61 above, and further in view of Brown et al. US 2003/0030011 A1.

Ghalib in view of Putz teaches the system of claim 61 but does not teach the water disinfecting means is a UV source or a UV spectrometer. Brown teaches that UV light is well known in the water purification art to disinfect water (paragraph 7) and it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a UV light source because it deactivates pathogens such as viruses, bacteria, fungus, microorganisms and other harmful substances (paragraph 7). Brown further teaches a sensor is a UV spectrometer interfaced with the product from via a fiber optic cable (paragraph 175). It would have been obvious to one of ordinary skill in

the art at the time the invention was made to use the fiber optic cable interface as taught by Brown because they monitor the signals of UV light and are used to adjust and verify the operating parameters of the fluid treatment system (paragraph 174 and 175).

Response to Arguments

7. Applicant's arguments with respect to claims 21, 61 and 76 have been considered and are addressed in the body of the rejection above.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BENJAMIN KURTZ whose telephone number is (571)272-8211. The examiner can normally be reached on Monday through Friday 8:00am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Benjamin Kurtz
Examiner
Art Unit 1797

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